

# Guide for Safe Tractor Operation

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Roll Over Protective Structures (ROPS) are standard equipment on most new tractors. The majority of older tractors also can be fitted with

ROPS. ROPS are available as 2 or 4 post frames or cabs. ROPS are intended to limit most roll-overs to about 90 degrees and to protect the operator, even if the tractor turns completely over.

The U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Standard with regard to Agricultural Tractors, Roll Over Protective Structures (ROPS) requires that all tractors manufactured after October 25, 1976, and operated by employed persons must be equipped with a ROPS and a safety seat belt. One section of the Federal ROPS Standard requires that employed tractor operators be given instructions with regard to nine safe practices of tractor operation that help reduce the likelihood of tractor upsets, if followed. The employee must be given the instructions when hired and at least once a year thereafter, regardless of the age of the tractor being operated. It is recommended that all tractor operators review these nine safe practices and follow them.

The nine safe operating practices are as follows:

## **1. Securely Fasten Your Seat Belt if the Tractor has a ROPS (Roll Over Protective Structure).**

All tractors equipped with a ROPS have safety belts to keep the operator in the seat if the tractor should tip over. Older tractors that do not have a ROPS should not be equipped with a seat belt.

## **2. Where Possible, Avoid Operating the Tractor Near Ditches, Embankments, and Holes.**

Employees should be instructed to constantly watch for holes and ditches that may be hidden by tall grass and weeds. Use extreme care when operating in areas not familiar to the operator. The operator should be instructed to drive at least as far from the edge of the bank as the ditch is deep. This will help prevent the bank from collapsing. If the operator happens to drive off the edge of the roadway onto a sloping area, he should throttle down and turn down the slope, not attempt to pull back onto the road immediately.

## **3. Reduce Speed When Turning, Crossing Slopes, and on Rough, Slick or Muddy Surfaces**

If a tractor is turned while traveling fast, centrifugal force decreases the stability of the tractor. Tractor upsets are more likely to occur on slopes, especially if a front end loader is used. Keep the load low while moving. Keep the brakes locked together for

road use and space the rear wheels as wide as practical (particularly on tricycle type tractors). When the tractor bounces, it loses stability. Front end ballast helps on rough or loose surfaces. An increase in speed from 5 to 15 mph increases the strength of the centrifugal force, acting on the tractor in a turn, nine times. Make all turns as wide as possible.

#### **4. Stay Off Slopes Too Steep For Safe Operations.**

If the tractor must be operated on slopes, try to do the following: Go down steep slopes in low gear (at least as low as the gear needed to drive up such a slope). If it is necessary to go up steep slopes, back up them slowly when possible. Keep the rear wheels (and front, if possible) set as wide as practical when operating across slopes.

#### **5. Watch Where You Are Going, Especially at Row Ends, on Roads, and Around Trees.**

When operating trailed implements in fields with obstructions and surface rocks, be alert to what is in the path of operation as well as watching the implement behind the tractor. Use rear view mirrors, if possible, and slow down at row ends.

#### **6. Do Not Permit Others To Ride.**

Make it a rule: No Seat, No Rider! Children should never be allowed to ride on a tractor. The consequences of children or adults falling from a moving tractor are likely to range from a severe injury to death.

#### **7. Operate the Tractor Smoothly-No Jerky Turns, Starts, or Stops**

Try to engage the clutch before increasing engine speed when starting on slopes. Sudden release of the clutch with full throttle could cause the front of the tractor to raise, particularly when headed up a slope.

Locked wheel turns by using one brake are also hazardous.

#### **8. Hitch Only to the Drawbar and Hitch Points Recommended by Tractor Manufacturers**

Loads hitched to the rear axle or to the rear lift arms can cause backward flips. Check the operator's manual for allowable hitch points on each tractor.

#### **9. When the Tractor is Stopped, Set Brakes Securely and Use Park Lock if Available.**

Turn off the tractor engine and set the brakes before dismounting. Place blocks at the rear wheels if on a slope. On manual transmissions, place the gear shift in the lowest forward or reverse gear.

**It is recommended that the employer have each employee sign a dated statement that he has received instruction on the nine safe operation practices when instruction is complete.**

A suggested statement for use with employees is:

I, \_\_\_\_\_, have read or had the nine safe tractor operating practices explained to me. I understand the dangers associated with operating a tractor if I do not follow these and other safe operating practices.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

There are other safe practices to follow when operating tractors. Some of these include the following:

- Connect the brake pedals together when operating on roads.
- Keep the brakes adjusted properly.

- Check the condition and inflation levels of tractor tires before operation.
- Always turn on the headlights and flashers when operating a tractor on public roads.
- Make sure an SMV is visibly displayed on the back of the tractor or implement being pulled.
- Do not pull loaded wagons down steep grades if the load weighs more than the tractor.
- Use the same gear to pull a loaded wagon down a hill as would be required to pull it up the hill.
- Keep the master shield over the PTO stub shaft.
- When there is a front loader on the tractor, keep the bucket or other load low to the ground when driving.
- Keep a good muffler on the tractor.
- Keep the engine stop device in good working order.
- Maintain the battery and starting system in good working condition.
- When jump starting a tractor, be sure it is out of gear and only attempt to crank it from the operator's seat.